

CAPSTONE PROJECT

1. Introduction

After losing her job, Monica decided that the compensation money she will use in her venture: a sushi bar. It will be located in Santiago de Chile so you should investigate where is the best location.

Business problem

To open a sushi place, you must use the Foursquare information on the communes or localities of Santiago (Chile). Santiago has 52 different localities (communes) and our challenge is find the best one. For this we define our target audience:

- High schools
- Universities
- Offices

The above serves to ensure that we have enough customers and that we are not so close to other sushi places.

2. Data

To find the best location for our sushi place, we will use the following sources of information:

From Wikipedia (tables)

Locations https://es.wikipedia.org/wiki/Anexo:Comunas_de_Chile_por_poblaci%C3%B3n

Post Codes https://es.wikipedia.org/wiki/Anexo:C%C3%B3digos_postales_de_Chile

From Files

Geo Location (latitude, longitude for each locality)

<https://raw.githubusercontent.com/odidahan/My-Capstone-Project/master/chile%20geo%20public.csv>

From Foursquare

Venues Categories <https://developer.foursquare.com/docs/resources/categories>

Sushi -4bf58dd8d48988d1d2941735

Highschool -4bf58dd8d48988d13d941735

University -4bf58dd8d48988d1ae941735

Office -4d4b7105d754a06375d81259

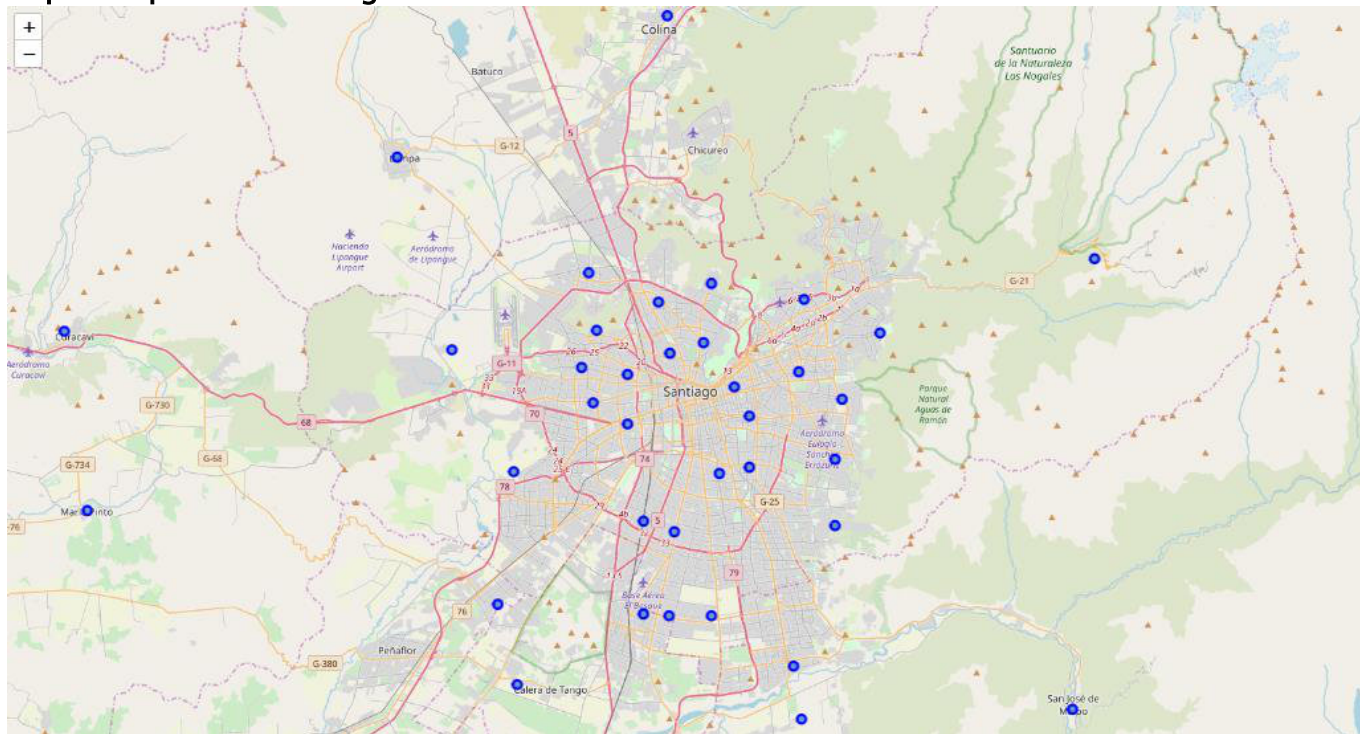
3. Metodology

- We import the different sources of information: Locations, postal codes, geographical location. There is a total of 346 locations in Chile.
- We select only the localities of the Metropolitan Region, that is, we use the "Metropolitan of Santiago" filter, leaving a total of 52 localities.
- Join all the bases, leaving a size of (52.4)
- For each location we look for the information of sushi restaurants, schools, universities and offices from Foursquare (venues)
- For each locality we group and count each one of the 4 categories
- We define weights for each category, depending on the recurrence that may have in our sushi bar

- Sushi restaurant: -1points (the more restaurants there are in a sector, the less important to us)
- Schools: 1 point (they are good clients, but it depends on the money their parents give them)
- Universities: 2 points (they are good clients and with more economic independence than the students)
- Offices: 3 points (they are good clients and with their own resources)
- For each location we calculate a final score and order the resulting data from highest to lowest. The place with the highest score will be where we will put our sushi bar.

4. Results

Map “Metropolitana de Santiago” Localities

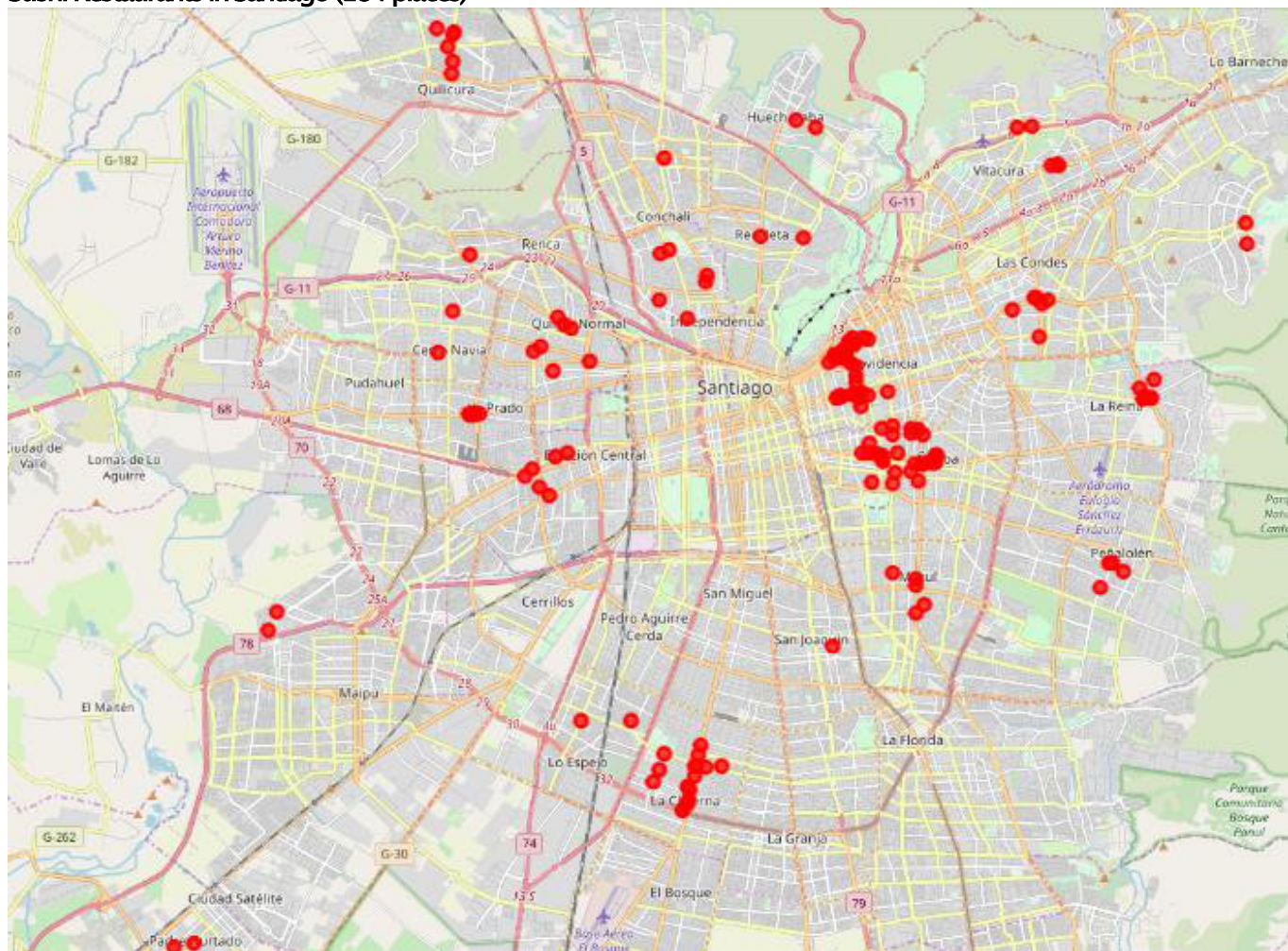


Geo Locations from “Metropolitana de Santiago” Localities

	Borough	Neighborhood	Lat	Lon		Borough	Neighborhood	Lat	Lon
0	Metropolitana de Santiago	Puente Alto	-33.616	-70.570	13	Metropolitana de Santiago	Renca	-33.398	-70.723
1	Metropolitana de Santiago	Maipú	-33.490	-70.788	14	Metropolitana de Santiago	Estación Central	-33.459	-70.699
2	Metropolitana de Santiago	Santiago	-33.425	-70.566	15	Metropolitana de Santiago	Colina	-33.194	-70.668
3	Metropolitana de Santiago	La Florida	-33.525	-70.538	16	Metropolitana de Santiago	Providencia	-33.435	-70.616
4	Metropolitana de Santiago	San Bernardo	-33.582	-70.687	17	Metropolitana de Santiago	Cerro Navia	-33.422	-70.735
5	Metropolitana de Santiago	Las Condes	-33.400	-70.503	18	Metropolitana de Santiago	Conchalí	-33.380	-70.675
6	Metropolitana de Santiago	Peñalolén	-33.482	-70.538	19	Metropolitana de Santiago	Melipilla	-33.689	-71.208
7	Metropolitana de Santiago	Pudahuel	-33.411	-70.836	20	Metropolitana de Santiago	La Granja	-20.900	-69.617
8	Metropolitana de Santiago	Quilicura	-33.361	-70.729	21	Metropolitana de Santiago	Macul	-33.487	-70.604
9	Metropolitana de Santiago	Ñuñoa	-33.454	-70.604	22	Metropolitana de Santiago	Quinta Normal	-33.427	-70.699
10	Metropolitana de Santiago	La Pintana	-33.583	-70.634	23	Metropolitana de Santiago	San Miguel	-36.818	-71.966
11	Metropolitana de Santiago	El Bosque	-41.667	-73.317	24	Metropolitana de Santiago	Lo Barnechea	-33.352	-70.336
12	Metropolitana de Santiago	Recoleta	-33.406	-70.640	25	Metropolitana de Santiago	Lampa	-33.286	-70.878

	Borough	Neighborhood	Lat	Lon		Borough	Neighborhood	Lat	Lon
26	Metropolitana de Santiago	Pedro Aguirre Cerda	-33.583	-70.667	39	Metropolitana de Santiago	Talagante	-33.667	-70.931
27	Metropolitana de Santiago	Independencia	-33.413	-70.666	40	Metropolitana de Santiago	Paine	-33.812	-70.723
28	Metropolitana de Santiago	Lo Espejo	-33.522	-70.687	41	Metropolitana de Santiago	Padre Hurtado	-33.576	-70.800
29	Metropolitana de Santiago	Huechuraba	-33.368	-70.634	42	Metropolitana de Santiago	Isla de Maipo	-33.754	-70.886
30	Metropolitana de Santiago	Buín	-33.728	-70.739	43	Metropolitana de Santiago	El Monte	-33.684	-71.017
31	Metropolitana de Santiago	Lo Prado	-33.445	-70.726	44	Metropolitana de Santiago	Curacavi	-33.399	-71.137
32	Metropolitana de Santiago	San Joaquín	-33.491	-70.628	45	Metropolitana de Santiago	Pirque	-33.650	-70.564
33	Metropolitana de Santiago	La Reina	-33.443	-70.532	46	Metropolitana de Santiago	Calera de Tango	-33.628	-70.785
34	Metropolitana de Santiago	Peñaflor	-36.233	-72.333	47	Metropolitana de Santiago	Tiltil	-33.085	-70.925
35	Metropolitana de Santiago	La Cisterna	-33.529	-70.663	48	Metropolitana de Santiago	San José de Maipo	-33.644	-70.353
36	Metropolitana de Santiago	Vitacura	-33.378	-70.562	49	Metropolitana de Santiago	Maria Pinto	-33.515	-71.119
37	Metropolitana de Santiago	San Ramón	-25.351	-70.447	50	Metropolitana de Santiago	San Pedro	-33.900	-71.467
38	Metropolitana de Santiago	Cerrillos	-34.533	-71.683	51	Metropolitana de Santiago	Allhué	-34.033	-71.100

Sushi Restaurants in Santiago (184 places)



High Schools in Santiago (137 places)

Universities in Santiago (138 places)

Offices in Santiago (1654 places!!)

Grouping by category (show the first 5 results)

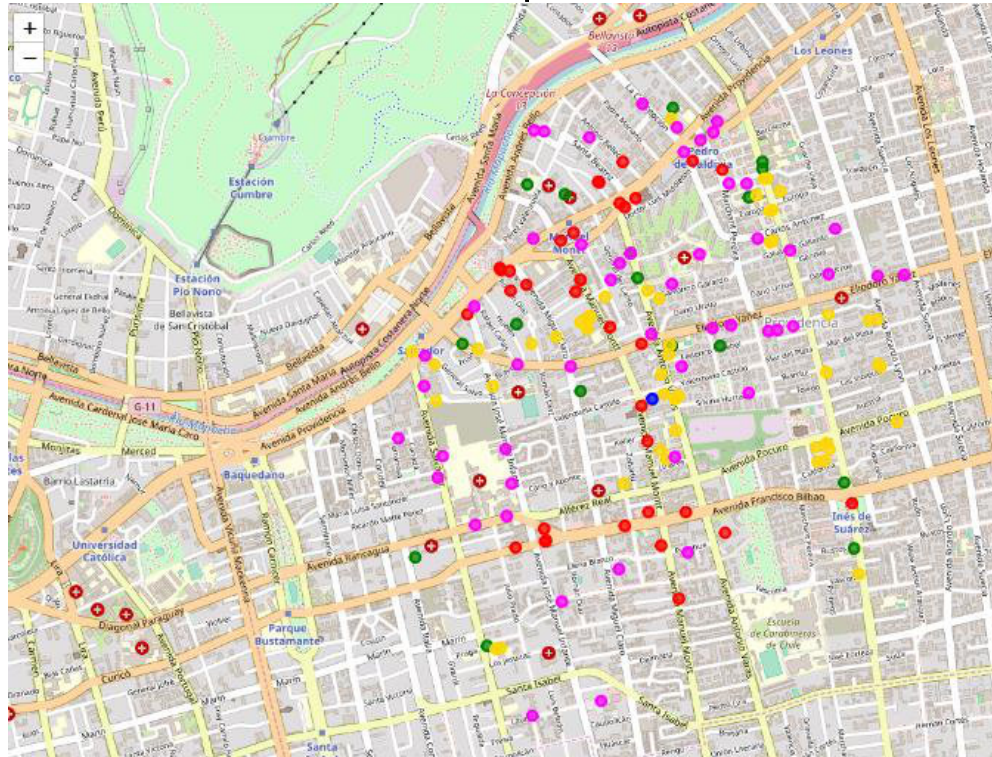
	Borough	Localidad	Lat	Lon	Sushi	High Schools	Universities	Offices
0	Metropolitana de Santiago	Puente Alto	-33.616	-70.570	5.0	4.0	0.0	46.0
1	Metropolitana de Santiago	Maipú	-33.490	-70.788	2.0	1.0	0.0	16.0
2	Metropolitana de Santiago	Santiago	-33.425	-70.566	6.0	9.0	4.0	49.0
3	Metropolitana de Santiago	La Florida	-33.525	-70.538	0.0	0.0	0.0	18.0
4	Metropolitana de Santiago	San Bernardo	-33.582	-70.687	3.0	6.0	0.0	49.0

We calculate the final score

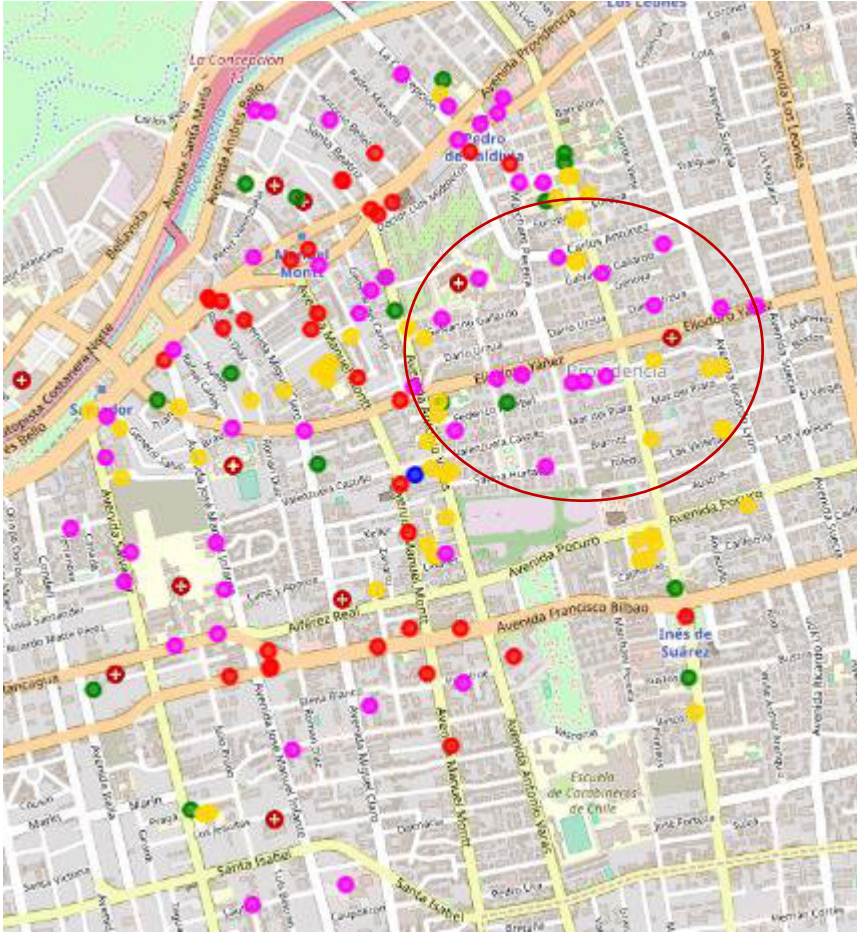
Localidad			Score	Localidad			Score	Localidad			Score	Localidad			Score																																																																	
16	Providencia	234.0	26	Pedro Aguirre Cerda	149.0	17	Cerro Navia	140.0	41	Padre Hurtado	27.0	5	Las Condes	215.0	30	Buin	139.0	0	Puente Alto	137.0	13	Renca	132.0	15	Colina	128.0	48	San José de Maipo	83.0	3	La Florida	54.0	47	Tiltil	51.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																											
5	Las Condes	215.0	18	Conchalí	148.0	46	Calera de Tango	24.0	40	Paine	21.0																																											7	Pudahuel	12.0	50	San Pedro	6.0	45	Pirque	3.0	20	La Granja	3.0	24	Lo Barnechea	0.0	38	Cerrillos	0.0	37	San Ramón	0.0	11	El Bosque	0.0	34	Peñaflor	0.0
32	San Joaquín	179.0	28	Lo Espejo	148.0	40	Paine	21.0	7	Pudahuel	12.0																																											50	San Pedro	6.0	45	Pirque	3.0	20	La Granja	3.0	24	Lo Barnechea	0.0	38	Cerrillos	0.0	37	San Ramón	0.0	11	El Bosque	0.0	34	Peñaflor	0.0			
2	Santiago	158.0	33	La Reina	148.0	48	San José de Maipo	83.0	3	La Florida	54.0																																											47	Tiltil	51.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0						
9	Ñuñoa	158.0	10	La Pintana	146.0	15	Colina	128.0	50	San Pedro	6.0																																											45	Pirque	3.0	20	La Granja	3.0	24	Lo Barnechea	0.0	38	Cerrillos	0.0	37	San Ramón	0.0	11	El Bosque	0.0	34	Peñaflor	0.0						
12	Recoleta	156.0	19	Melipilla	146.0	48	San José de Maipo	83.0	3	La Florida	54.0	47	Tiltil	51.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																
14	Estación Central	152.0	39	Talagante	145.0	3	La Florida	54.0	47	Tiltil	51.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																			
44	Curacaví	152.0	35	La Cisterna	145.0	47	Tiltil	51.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																						
25	Lampa	152.0	31	Lo Prado	144.0	1	Maipú	47.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																									
21	Macul	151.0	29	Huechuraba	144.0	42	Isla de Maipo	33.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																												
27	Independencia	151.0	36	Vitacura	144.0	49	María Pinto	33.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																															
6	Peñalolén	151.0	8	Quilicura	143.0	43	El Monte	33.0	51	Alhué	33.0	23	San Miguel	0.0																																																																		
4	San Bernardo	150.0	22	Quinta Normal	143.0	51	Alhué	33.0	23	San Miguel	0.0																																																																					

The locality with best score is “Providencia” with 234 pts.

With this result we maximize the number of potential customers who will visit our sushi bar.



5. Discussion



- The red dots are the competition. If we review the places in depth, our sushi bar should be located where the yellow, green and fuchsia dots are concentrated.
- We can see that the best location then is on Elodoro Yáñez street.
- To improve the analysis, we can add more competitors, for example, night bars.